

STATISTICAL BRIEF

ORGAN TRANSPLANT SERVICES

This statistical brief is one of a series designed to provide data annually for monitoring the availability and utilization of certain health care resources in compliance with the Commission's State Health Plan for Facilities and Services. Under COMAR 10.24.15.04C, existing providers of organ transplant services in Maryland are to operate at or above minimum volumes, comply with the requirements of certification and/or accreditation, and report outcome data. This brief includes the most recent annual data available from the specified sources.

Organ transplant services include the transplantation of organs or tissues, including transplantable cells. To plan for transplant services, MHCC has established two regional service areas. The Maryland region consists of Baltimore City and the counties of Maryland, excluding Charles, Montgomery, and Prince George's; the Washington region includes those counties, plus Washington, D.C. and Northern Virginia. The Maryland Certificate of Need Program regulates non-federal hospitals in Maryland.

Based on evidence that the volume of organ transplant procedures correlates with outcomes such as survival rates, the Commission has established minimum volume requirements for each program type. Threshold volumes, generally higher than minimum, are a guide for measuring adverse impact on existing programs when the Commission considers the development of additional capacity.

Solid Organ Transplantation

The major solid organs include kidney, liver, pancreas, heart, and lung. National data include intestinal transplants (111 in 2001; 116 in 2003). MHCC has not established a minimum volume for intestinal transplant programs. Medicare requires an approved facility to perform at least 10 intestinal transplants per year.

The number of registrations on the national waiting list for organ transplants continues to exceed the supply of donated organs. From 2001 to 2003, there was a 2.7 percent average yearly increase in the waiting list (84,798 to 89,369), and a comparable 2.6 percent average yearly increase in transplants occurring (24,195 to 25,459).

Nationally, the number of organ donors has increased, although at a slower pace than previous years, at an average of 2.4 percent per year from 2001 to 2003 (12,656 to 13,270). During this period, living donations increased an average of 1.8 percent per year (6,576 to 6,815), while a 3.1 percent average yearly increase in deceased organ donors occurred (6,080 to 6,455). Since 2001, the number of living donors has exceeded the number of deceased donors. An increase in donation from deceased donors provides more organs for transplantation than a comparable increase in the number of living donors; an average of 3.6 organs were recovered from each deceased donor.

Hospitals within the Maryland region currently performing solid organ transplants are Johns Hopkins Hospital (JHH) and the University of Maryland Medical Center (UMMC). Transplant services are also available to Maryland residents at hospitals within the Washington region: Children's National Medical Center (Children's), Georgetown

University Medical Center (GUMC), Howard University Hospital (HUH), Washington Hospital Center (WHC), and Inova Fairfax Hospital (Fairfax). Also included are federal programs at Walter Reed Army Medical Center (WRAMC) and Clinical Center at National Institutes of Health (NIH).

As of May 14, 2004, all transplant programs operating in Maryland, Washington, D.C., and Northern Virginia were certified by the United Network for Organ Sharing (UNOS), which administers the Organ Procurement and Transplantation Network (OPTN).

Utilization at Maryland and Washington Regional Transplant Centers by Organ Type: 2001 – 2003.

Organ	Minimum Volume	Facility	2001	2002	2003
Kidney	30	JHH*	164	176	168
		UMMC*	384	252	185
		GUMC*	38	47	40
		HUH*	4	6	9
		WHC*	99	97	109
		Fairfax*	94	102	91
		Children's*	12	8	4
Pancreas	12	WRAMC	38	39	31
		JHH	2	4	3
		UMMC	47	35	25
		GUMC	0	1	0
		WHC	4	4	4
		Fairfax	2	6	2
Kidney-Pancreas	There is no minimum volume. Counts may be included in respective organ program.	WRAMC	0	1	0
		JHH	3	2	1
		UMMC	11	6	5
		GUMC	1	3	4
		HUH	1	0	0
		WHC	9	9	8
		Fairfax	6	4	4
Liver	12	WRAMC	2	0	2
		JHH*	50	48	36
		UMMC*	28	25	22
		GUMC*	46	51	51
Heart	12	Fairfax*	24	18	19
		JHH*	21	19	7
		UMMC*	0	13	12
		WHC*	5	5	5
		Children's	0	0	2
Lung	12	Fairfax*	12	15	9
		JHH*	19	25	4
		UMMC*	3	6	4
		Fairfax*	23	21	20
Heart-Lung	12 Count may include heart or lung transplants.	JHH*	0	0	0
		UMMC*	0	0	1
		Fairfax*	0	0	0

Source: UNOS OPTN Data as of May 14, 2004.

WRAMC data include Clinical Center at NIH (kidney, pancreas).

* Medicare-Approved Transplant Programs, as of March 2004, for Heart; December 2003, for Lung and Heart-Lung; February 2004, for Kidney; and February 2004, for Liver. Medicare does not approve facilities to perform pancreas transplantation. Medicare will cover pancreas transplantation when it is performed simultaneous with or after a kidney transplant (Section 35-82 of the Medicare Coverage Issues Manual).

In contrast to national trends, the number of solid organ transplants occurring in the Maryland and Washington regions over the most recent three years declined, at an average of 11.5 percent per year from 2001 to 2003 (1,152 to 887).

The number of organ donors in the Maryland and Washington regions declined 4.4 percent per year over the same period. Living donors decreased 7.3 percent per year (410 to 350), while deceased donors increased 3.7 percent per year (150 to 161).

In 2002, only 46 percent of eligible donors nationally became actual donors. In April 2003, the federal Department of Health and Human Services initiated the Organ Donation Breakthrough Collaborative, with the aim to dramatically increase access to transplantable organs. By spreading known best practices, its goal is to achieve organ donation rates of 75 percent or higher in the 300 hospitals with the highest number of eligible donors. These hospitals are located in 46 states (including Maryland) and the District of Columbia.

A number of initiatives are also being made on behalf of living donors, including work conducted by the Joint Commission on Accreditation of Healthcare Organizations and the National Institutes of Health. One aim of these projects is to improve patient safety by assisting potential donors to make informed decisions.

The primary outcome data for transplantation are survival rates. Survival rate statistics for center-specific outcomes by solid organ type for aggregated years can be found at <http://www.ustransplant.org/center-adv.html>. The data found on the website of the Scientific Registry of Transplant Recipients is regularly updated with the most recent data available.

Stem Cell Transplantation

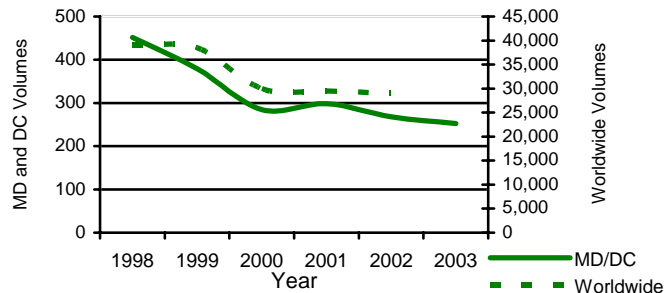
There are two major types of hematopoietic stem cell transplantation, autologous and allogeneic, which are categorized based on donor types. Currently, the State Health Plan states that stem cell transplant programs should be affiliated with a teaching hospital, and allogeneic stem cell transplantation should be limited to academic medical centers only.

Hospitals within the Maryland region currently performing stem cell transplants are JHH and UMMC. In the past two years, the three programs at community hospitals in Maryland providing autologous stem cell transplantation have closed. The Washington region includes Children's, GUMC, and George Washington University Hospital (GWUH) in Washington, D.C., and Fairfax in Northern Virginia, which also provide transplant services to Maryland residents. In addition, the accredited program at WRAMC performs autologous transplant procedures.

Utilization of autologous stem cell transplants in the Maryland and Washington regions experienced a 38.9

percent decrease from 1998 to 2003 (452 to 276), with a 4.2 percent decrease in the past year (2002 to 2003).

Autologous Transplantation Volumes in the Maryland and Washington Regions and Worldwide: 1998-2003



Sources: MD/DC data - MHCC Quarterly Surveys, Worldwide - The International Bone Marrow Transplant Registry (IBMTR) and the Autologous Blood and Marrow Transplant Registry (ABMTR)

The downward trend can also be seen worldwide. The IBMTR/ABMTR presents an annual report on the "State of the Art" in stem cell transplantation. Its 2003 report shows a 25 percent drop for autologous transplants from 1998 to 2002.¹ This drop in transplants was due to a decrease in their use for breast cancer.

Utilization at Maryland and Washington Regional Transplant Centers by Stem Cell Type: 2001 – 2003.

Cell Type	Minimum Volume	Facility	2001	2002	2003
Autologous	10	HCH*	0	0	0
		GBMC*	2	2	0
		JHH†	108	78	97
		Sinai*	1	7	-
		UMMC†	61	64	75
		Children's†	5	20	14
		GUMC†	27	32	22
		WHC*	0	-	-
		GWUH	4	0	7
		Fairfax†	40	24	31
Allogeneic (including cord blood transplants)	10	WRAMC†	50	38	30
		JHH†	85	88	82
		UMMC†	22	29	17
		Children's†	20	11	12
		GUMC†	24	16	19
		GWUH	1	0	0
		Fairfax†	5	5	3

Source: MHCC Quarterly Surveys.

The 2001 and 2002 data have been updated from the previous edition.

† Accredited by the Foundation for the Accreditation of Cellular Therapy (FACT)

* Sinai Hospital performed its last procedure on August 27, 2002; WHC consolidated its program with Georgetown University Medical Center, effective March 31, 2001; GBMC closed its program, effective October 1, 2003; Holy Cross, as of May 24, 2004, formally closed its Autologous Bone Marrow Transplant program.

Use of allogeneic stem cell transplants in the Maryland and Washington regions declined 7.6 percent per year from 2001 to 2003 (157 to 133). Their use worldwide has remained stable since 1998.

Limited survival statistics can be found at http://www.marrow.org/PATIENT/understanding_survival_statistics.html for facilities participating in the National Marrow Donor Program (NMDP).

¹ Loberiza F. Report on the state of the art in blood and marrow transplantation – Part I of the IBMTR/ABMTR summary slides with guide. *IBMTR/ABMTR Newsletter*. 10(1), November 2003.